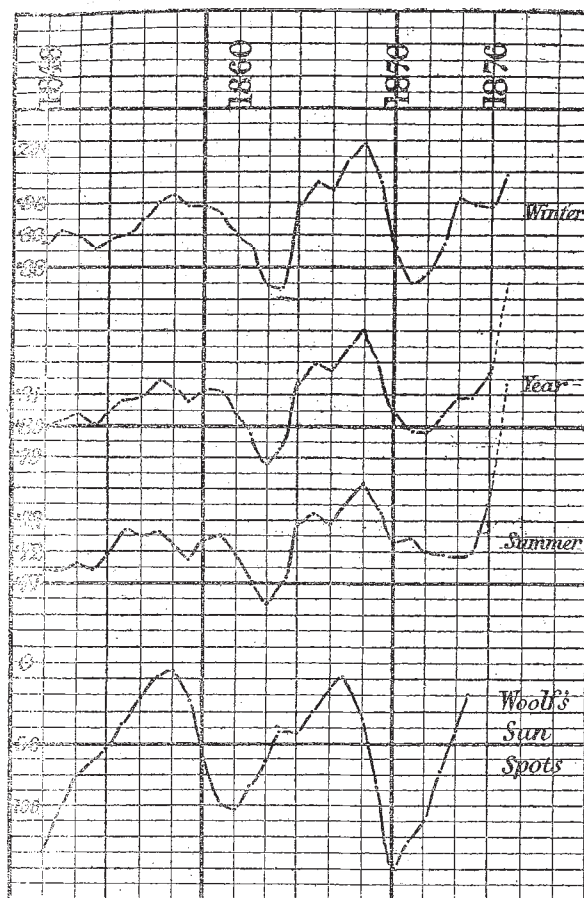


It will be seen that there is a remarkable degree of resemblance in the progression of these phenomena from year to year, but that the barometric curve "lags behind" the sun-spot curve, particularly in the years of maximum sun-spots.



The winter curve is more regular than the summer one, probably because the weather generally in India is more settled in the winter than in the summer, but on the whole the two curves support each other in showing a low pressure about the time of sun-spot maximum, and a high pressure at the time of sun-spot minimum. We may therefore conclude that the sun is hottest about the time when the spots are at a maximum, and coldest when they are at a minimum.

The range of the variation of the year by mean pressure from the minimum of 1862 to the maximum of 1868, is '042 of an inch, and the mean range of the barometer from January to July is '291, from which it appears that the variations of pressure produced by absolute variations of the sun's heat are, in comparison with the usual seasonal changes, by no means insignificant.

These results appear to harmonise well with the decennial variations of the rainfall in India, and to throw light upon the inverse variation (compared with the sun-spots) of the winter rainfall of Northern India. Mr. Archibald has attempted to explain this latter phenomenon on the assumption that the sun is coldest when it is most spotted, but the inverse winter variation of the rainfall of Northern India, as well as the direct variation at Madras, Bombay, Trevandrum, and elsewhere, appear to me to follow more naturally from the contrary view; for if the winter rainfall in Northern India is really due to the cold of winter we should expect it to be greatest when the sun is coldest, just as the summer rainfall is expected to be greatest when the sun is hottest.

Bombay, August 23;

FRED. CHAMBERS

The Norwegian Arctic Expedition

THE *Vöringen*, Capt. Wille, returned to Christiania on the 10th, from Spitzbergen, after a most successful cruise. No less than 375 stations have been thus explored by sounding, dredging, and trawling during the last three summers; and the *Morgenbladet* reminds us that only 354 of such stations were recorded in the notice of the *Challenger* expedition. The number of stations in the *Porcupine* cruises of 1869 and 1870 was 148.

Prof. G. O. Sars informs me that in every department of zoology a vast amount of material was procured in his last cruise, and that especially the Mollusca are abundantly represented, not only by magnificent specimens of rare Arctic species, such as *Fusus kroyeri* and *F. (Neptunea) deformis*, but also by several interesting new forms. He adds that the conchological collection from this cruise is indeed much richer than both of those made in his former two cruises. Herr Friele will work out all the Mollusca.

I cannot omit expressing my admiration of the recent work of Prof. G. O. Sars, entitled "*Mollusca Regionis Arcticæ Norvegiæ*." His descriptions are excellent, and his figures (all by his own hand, and autographed) are inimitable. The work contains 466 pages and 52 plates, besides a chart.

Ware Priory, Herts, September 23 J. GWYN JEFFREYS

Albinism in Birds

WHEN I was forming the Government Central Museum at Madras, an albino crow was brought to me, which was stuffed and placed in the museum. It was mentioned to me at the same time that there is a colony of albino crows at a part of the Malabar coast, but I have never been able to verify the statement. That district is daily becoming more frequented by Europeans, and some of them may soon be in a position to ascertain how far the report was correct.

EDWARD BALFOUR

2, Oxford Square, September 19

As Mr. Page says, in *NATURE* (vol. xviii. p. 540), he has only heard of one white swallow, it may be interesting to him and your readers to learn that in the Newcastle Museum there is a specimen, also white specimens of the rook, pheasant, curlew, sparrow, and starling; in the same collection will also be found a "pale rose" coloured specimen of the bullfinch.

Newcastle-upon-Tyne, September 20

WM. LYALL

"Hearing of Insects"

I AM able to confirm the accounts given by Mr. Simson in your last number as to the probability of the hearing of insects. When travelling on the River Magdalena, New Granada, in 1861, the mode of which is by a long boat, arched over with bamboo, on which the sailors (bogás) passing from one extremity to the other, propel it with long poles, hugging the river bank, accompanied with wild cries and excretions, I observed on several occasions that these cries suddenly ceased, a dead silence following, and on inquiring the cause they pointed to nests high up in the trees, whispering the word *vispa* (wasp). As the bogás pursue their avocations in a state of semi-nudity, they have the greatest dread of these insects, fearing to speak aloud, as their only alternative if attacked by them is to plunge into the stream, where alligators abound. The wasp is long, slender, and black in colour.

117, Cromwell Road, S.W., Sept. 21

W. L. DUDLEY

The Meteor Shower of Andromedes I.

MR. GREG's meteor radiant (No. 103 of his 1876 catalogue) at R.A. 7° , Dec. 33° N., for July 21 to August, really consists of two well-defined showers near α Andromedæ. The meteors are quite distinct, and, moreover, there is a difference of 10° in declination. My observations since 1873 indicate two positions as below:—

- | | |
|---|--|
| I. July 6 to August 16, $6^{\circ} + 37^{\circ}$ | 60 very swift streak-leaving
meteors. |
| II. July 6 to August 11, $3^{\circ} + 27^{\circ}$ | |

Schiaparelli and Zezioli, Greg and Herschel, and Tupman, found the former some years ago, and Denza gives the latter at $2^{\circ} + 29^{\circ}$ August 8-13. Mr. Greg averages these with several others (including one by Schmidt at $7^{\circ} + 30^{\circ}$, and another by Heis at $11^{\circ} + 30^{\circ}$, both for August) and finds a centre at $7^{\circ} + 33^{\circ}$ for the whole. There is no doubt, however, that there are two conspicuous contemporary radiants of entirely

different meteors. This year, on August 10, in bright moon-light, I traced five meteors from $6^{\circ} + 37^{\circ}$, and the epoch and place fall near Comet II. 1780, August 14, $31^{\circ} + 38^{\circ}$, but the comet was only visible for three days after its discovery by Montaigne and others on November 28, 1780, and hence the orbit is not likely to have been exactly determined. At the nodal passage the comet's orbit lies far within the orbit of the earth, so that an encounter of the earth with the comet-particles is only possible on the thesis of Weiss and Schiaparelli that "some part of the cometary materials repelled from its proper orbit by the sun in the form of the tail or other luminous appendage emitted by the comet near its perihelion passage extends to such a distance in its orbital plane as to intersect the orbit of the earth" (see B.A. Report, 1873, pp. 401-2).

Ashleydown, Bristol, September 16 W. F. DENNING

The Zoological Record

IN the third number of vol. iii. of the *Niederländisches Archiv für Zoologie* (Leiden: E. T. Brill), I published in German a "Catalogue Raisonné" of zoological works and papers that appeared in the Netherlands during 1875 and 1876. You noticed the appearance of this paper in your "Notes" (NATURE, vol. xvi. p. 112).

The principal reason of my publishing this bibliography was my wish to make known in other countries what is done in the Netherlands in the zoological department. For the same purpose, about the end of May, 1877, I sent a copy of my paper to the *Zoological Record* and addressed it "Solely to the Editor of the *Zoological Record*, care of Mr. Van Voorst, 1, Paternoster Row, London."

Afterwards studying vol. xii. and xiii. of the said "Record," I found that about twenty of the papers recorded in my catalogue were not mentioned in these volumes. Of course this might have been occasioned by the unimportance of these twenty unlucky papers; but conscientiously comparing their value with that of the other sixty of my bibliography, and as far as possible in general with the papers mentioned in the *Record* I got the conviction that this could not be the reason.

I feel a great deal of admiration, and at the same time of gratitude for the immense amount of work done by the contributors of the *Record*, and I quite agree with you (NATURE, vol. xviii. p. 485) that it would be to the everlasting disgrace of zoologists (not only of your tongue, but of all tongues) if its existence should be prematurely brought to a close. But only when I find in the *Record* as much completeness as possible, the use of it will spare me the endless trouble of looking for every detail over the totality of zoological literature.

Now I don't believe that in the case mentioned here (to secure this completeness) much care has been taken.

September 19

P. P. C. HOEK

Earth Pillars

SHOULD you deem the following of sufficient interest, will you kindly insert it in NATURE?

A few days since I saw an interesting example of minute earth-pillars on the shore of the Hecht Sea, above Kieffersfelden, Inn Thal. In a cove to the north the beach for many yards formed a perfect forest of little pillars, whose height ranged from a quarter to three-quarters of an inch. On the top of most lay a small stone, a fragment of wood or shell; but some, which had lost their coverings, were wearing away. The shell fragments (from a *Unio*, I fancy) seemed to form the most complete protection, and these often fitted the pillars like helmets; in fact, it required no great stretch of the imagination to fancy the whole a marching army, and the jutting wood fragments spears.

South Tyrol is by no means the only place in this country where earth-pillars occur, though the Bozen pillars are probably the finest. Amongst others in North Tyrol there is a very interesting example of large earth-pillars on the Brenner railway, between Innsbruck and Patsch, on the right—going south.

JAMES H. MIDDLEY

Brixlegg am Inn, Tyrol, September 17, 1878

Indian Building Timber

IN NATURE, vol. xviii. p. 317, it is stated "much or most of the wood used in Peking in building houses, temples, and palaces is said to come from Corea;" it is further remarked editorially, "we think, however, our contemporary is in error in stating, without qualification, that 'the great wooden masts which

support the noble temples and gatehouses of the Imperial City of Peking (all enormous, beautiful, and enduring spars) come from Corea."

Having had some experience in the timber and timber-trees of Burma I am inclined to the opinion that this valuable timber "nan-mu" therein referred to will prove to be identical with the wood used for the same purposes generally over Burma. The wood is called in Lower Burma "Pyenkadoo," it has a wide distribution under a variety of names, according to the different provincial dialects of the districts it is found in. Its great length of bole without branches, the different sizes at which it can be obtained renders it from its great durability, readiness to polish, and its variegated and coloured grain (brown mahogany colour) most suitable for the supports or pillars of "kyoings," or temples. It belongs to the natural order Leguminosæ, specific name *Inga xylocarpa*.

Besides this there are several other woods highly esteemed by the Burmese for durability, and these chiefly are found amongst the Cassias and Dalbergias.

Inga xylocarpa has great toughness—a piece of three feet long by one inch square I find stood a breaking weight of 1,153 pounds; its specific gravity is nearly double that of teak and it does not float.

The objection to the introduction of the different ornamental and useful timbers of Burma is their toughness, hardness to work, and hence increased labour and wear of tools.

Whitby

R. BENSON

[With reference to the question of the identity of the wood of the "nan-muh" tree with that of *Inga xylocarpa* we may point out that from material received at Kew the former has been referred to a Lauraceous tree, probably *Phæbe pallida*. From comparison of the two woods microscopically they present something in common, the annual rings, however, are much more apparent in the "nan-muh" than in the "Pyenkadoo." This latter is of a dark reddish brown, extremely heavy, as described by Col. Benson, while the nan-muh is of a dull umber colour and much lighter in weight.—ED.]

OUR ASTRONOMICAL COLUMN

THE INTRA-MERCURIAL PLANET.—The particulars of Mr. Lewis Swift's observations during the totality of the recent eclipse, given in his letter which appeared in NATURE last week, are satisfactory so far as they afford independent testimony to the existence of an unknown body in the vicinity of the star θ Cancri, or in the locality where Prof. Watson, a few minutes previously, had observed an object which he considers to have been an intra-Mercurial planet. In other respects Mr. Swift's letter is indefinite and contradictory in itself. He tells us that he observed two red stars "with large, round, and equally bright discs," estimating the distance between them at about $7'$ or $8'$; and, one of the objects being identified with θ Cancri, he intimates that the proximity of the other to this star enabled him to estimate its position with great exactness, especially in declination. But in a subsequent paragraph, where the place of the star is adopted from the Astronomer-Royal, the unknown object is fixed to a position which makes its distance from θ Cancri $30'$, or four times as great as mentioned previously. The place of the supposed planet, according to Prof. Watson, was, as stated last week, in right ascension 8h. 27m. 24s., and declination $18^{\circ} 16' N.$; and as the apparent place of the star at the time was in right ascension 8h. 24m. 39s., and declination $18^{\circ} 30' 19''$, the distance between the two was $42'$, on an angle at the star, of 110° . With regard to Mr. Swift's concluding observation as to the position of the presumed planet in its orbit, it is evident that, to present a round or nearly round disc, it must have been situate, as Prof. Watson infers, in the superior part of the orbit, and being to the west of the sun, would be approaching superior conjunction.

Prof. Watson states that the magnitude of the object in question was 4 to $4\frac{1}{2}$, and that of the second unknown star, which he alone appears to have observed, was $3\frac{1}{2}$, and adds, "they were probably really brighter, because